CLAIMS

What is claimed is:

1. An electronic interconnection system comprising:

a printed wiring board (PWB) comprising a first surface having at least a first and a second contact pad;

a chip package comprising a chip and a package substrate, wherein the chip is mounted onto the package substrate and the package substrate has a first surface having at least a first contact pad and a second surface having at least a second contact pad;

an electrical connection for coupling the first contact pad of the PWB with the first contact pad of the package substrate; and

a bridge lead for coupling the second contact pad of the PWB with the second contact pad of the package substrate.

2. The system as defined in claim 1, wherein the chip is mounted to the second surface of the package substrate.

3. The system as defined in claim 1, wherein the electrical connection comprises a solder ball.

4. The system as defined in claim 1, wherein the bridge lead comprises at least one flying lead style of bridge lead.

5. The system as defined in claim 1, wherein the bridge lead comprises at least one edge wiping style of bridge lead.

6. The system as defined in claim 1, wherein the bridge lead comprises at least one top wiping style of bridge lead.

7. The system as defined in claim 1, wherein the bridge lead comprises at least one double wiping style of bridge lead.

8. The system as defined in claim 7, wherein the bridge lead further comprises a heat sink and thermal interface material for extracting heat from the chip.

9. The system as defined in claim 7, wherein the bridge lead further comprises at least a portion of an integrated Electro-Magnetic Interference shield for the chip.

10. The system as defined in claim 1, wherein:

the first surface of the PWB is substantially parallel to the first surface of the package substrate;

the first surface of the package substrate is substantially parallel to the second surface of the package substrate;

the chip is mounted on the second surface of the package substrate; and

the electrical connection comprises a solder ball.

11. The system as defined in claim 10, wherein the bridge lead comprises at least one top wiping style of bridge lead.

12. The system as defined in claim 10, wherein the bridge lead comprises at least one double wiping style of bridge lead.

13. The system as defined in claim 12, wherein the bridge lead further comprises a heat sink and thermal interface material for extracting heat from the chip.

14. The system as defined in claim 12, wherein the bridge lead further comprises at least a portion of an integrated Electro-Magnetic Interference shield for the chip.

15. A chip package comprising:

at least one chip; and

a package substrate comprising a first surface having a ball grid array of a plurality of solder balls and a second surface having at least one contact pad, wherein the at least one chip is mounted onto the package substrate.

16. The chip package as defined in claim 15, wherein the first surface is substantially orthogonal to the second surface.

17. The chip package as defined in claim 15, wherein the first surface is substantially parallel to the second surface.

18. The chip package as defined in claim 17, wherein the at least one chip is mounted onto the second surface.

19. A method for interconnecting a chip package to a printed wiring board (PWB), the chip package comprising at least one chip and a package substrate including a first surface having a ball grid array (BGA) of a plurality of solder balls and a second surface having at least one contact pad, wherein the at least one chip is mounted onto the package substrate, the method comprising:

connecting the first surface of the package substrate of the chip package to the PWB via the plurality of solder balls of the BGA; and

connecting the second surface of the package substrate of the chip package to the PWB via at least one bridge lead.

20. An apparatus for interconnecting a chip package to a printed wiring board (PWB), the chip package comprising at least one chip and a package substrate including a first surface having a ball grid array (BGA) of a plurality of solder balls and a second surface having at least one contact pad, wherein the at least one chip is mounted onto the package substrate, the apparatus comprising:

means for connecting the first surface of the package substrate of the chip package to the PWB via the plurality of solder balls of the BGA; and

means for connecting the second surface of the package substrate of the chip package to the PWB.

21. The apparatus as defined in claim 20, wherein the means for connecting the second surface comprises at least one bridge lead.

22. The apparatus as defined in claim 21, wherein the at least one bridge lead comprises at least one flying lead style of bridge lead.

23. The apparatus as defined in claim 21, wherein the at least one bridge lead comprises at least one edge wiping style of bridge lead.

24. The apparatus as defined in claim 21, wherein the at least one bridge lead comprises at least one top wiping style of bridge lead.

25. The apparatus as defined in claim 21, wherein the at least one bridge lead comprises at least one double wiping style of bridge lead.

26. The apparatus as defined in claim 25, wherein the at least one bridge lead further comprises a heat sink and thermal interface material for extracting heat from the chip.

27. The apparatus as defined in claim 25, wherein the at least one bridge lead further comprises at least a portion of an integrated Electro-Magnetic Interference shield for the chip.

28. An apparatus for interconnecting a chip package to a printed wiring board (PWB), the chip package comprising at least one chip and a package substrate including a first surface having a ball grid array (BGA) of a plurality of solder balls and a second surface having at least one contact pad, wherein the at least one chip is mounted onto the package substrate, the apparatus comprising:

at least one bridge lead for connecting the at least one contact pad on the second surface of the package substrate of the chip package to the PWB.

29. The apparatus as defined in claim 28, wherein the at least one bridge lead comprises at least one flying lead style of bridge lead.

30. The apparatus as defined in claim 28, wherein the at least one bridge lead comprises at least one edge wiping style of bridge lead.

31. The apparatus as defined in claim 28, wherein the at least one bridge lead comprises at least one top wiping style of bridge lead.

32. The apparatus as defined in claim 28, wherein the at least one bridge lead comprises at least one double wiping style of bridge lead.

33. The apparatus as defined in claim 32, wherein the at least one bridge lead further comprises a heat sink and thermal interface material for extracting heat from the chip.

34. The apparatus as defined in claim 32, wherein the at least one bridge lead further comprises at least a portion of an integrated Electro-Magnetic Interference shield for the chip.